



### Preliminary Specifications: CM82-EZs-II

Tile bridge included

System Type	8-inch coaxial, in-ceiling, sealed (64-watt transformer for 25/70.7/100-volt or transformer bypass)	
Impedance (nominal) <sup>1</sup>	16 ohm	
Sensitivity dB @ 2.83 V/1 m	85 dB	
Sensitivity dB @ 1 W/1 m <sup>2</sup>	88 dB	
Frequency Response (-3 dB) <sup>3</sup>	109 Hz - 18 kHz	
Frequency Response (-10 dB) <sup>3</sup>	82 Hz - 22 kHz	
Max. Program Power <sup>4</sup>	128 W	
Max. Continuous Power RMS <sup>5</sup>	64 W	
Max. Power SPL @ 1 m <sup>6</sup>	106.0 dB	
Coverage Angle (-6 dB @ 2 kHz)	105°	
Coverage Angle (-6 dB @ 10 kHz)	35°	
Coverage Angle (averaged 2-10 kHz)	105°	
Directivity Factor (Q)	5.2 (averaged 100 Hz - 10 kHz) ; 6.8 (2 kHz)	
Directivity Index (DI)	5.5 dB (averaged 100 Hz - 10 kHz) ; 8.3 dB (2 kHz)	
Tap Selector	Six-position rotary switch with transformer bypass position	
Transducer - Low-Frequency Driver	203 mm (8 in.) Polypropylene cone, butyl rubber surround	
Transducer - High-Frequency Driver	25.4 mm (1.0 in.) Silk dome tweeter	
Low-Frequency Voice Coil	25.4 mm (1.00 in.)	
Crossover Frequency	3.0 kHz	
Network Type: Low Pass	6 dB per octave, 1st order	
Network Type: High Pass	6 dB per octave, 1st order	
Enclosure Material	Drawn steel backcan with ABS baffle	
Grille	Painted steel	
Inputs	4 position ceramic terminal strip	
Colors	Black or white	
Backcan Diameter	245.6 mm (9.67 in.)	
Backcan Height	95.3 mm (3.75 in.)	
Visible Diameter	298.5 mm (11.75 in.)	
Visible Height	8.6 mm (0.34 in.)	
Mounting Hole Diameter	266.7 mm (10.50 in.)	
Min - Max Ceiling Thickness	0.9 mm (0.04 in.) - 40.6 mm (1.60 in.)	
Weight	3.2 kg (7.0 lbs.)	
Shipping Weight	4.1 kg (9.0 lbs.)	
Packaging	One per box	
Included accessories	Tile bridge, UL-listed flex conduit clamp, paint shield, cutout template, two wire nuts	
Optional accessories	Pre-construction bracket (AC-CMEZ6/8-PCB); junction box (AC-CM-EZ-JBOX)	
Regulatory - UL	UL 1480 (UEAY) and 2043 approved	
Regulatory - CE	Approved	
RoHS	Approved	

#### Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
64 W	106.0 dB	64 W	106.0 dB	8 W	97.0 dB
32 W	103.0 dB	32 W	103.0 dB	4 W	94.0 dB
16 W	100.0 dB	16 W	100.0 dB	2 W	91.0 dB
8 W	97.0 dB	8 W	97.0 dB	1 W	88.0 dB
4 W	94.0 dB			0.5 W	85.0 dB

<sup>1</sup> Impedance listed per IEC 60268-5

<sup>2</sup> 1 W 1 m sensitivity determined using nominal impedance

<sup>3</sup> Frequency response measured in half or full space as dictated by speaker mounting configuration

<sup>4</sup> Max program power is 3 dB above max continuous power

<sup>5</sup> Continuous power rating, EIA-426-B test

<sup>6</sup> Max output based on max continuous power

<sup>7</sup> Max useable SPL based on testing by NWA Labs

### Key Features

- Engineered for applications with limited plenum space incorporating a SoundTube-specific shallow backcan with an installed depth of 3.5 inches.
- One 8 inch (203 mm) polypropylene woofer with butyl rubber surround and one 1.0 inch (25.4 mm) silk dome tweeter.
- Easy-access six-position tap switch for 25/70.7/100-volt and 16 ohm transformer bypass settings allows for easy ordering, stocking and installation.
- Reduced amplification costs and maximum efficiency of 88.0 dB sensitivity, 16 ohm impedance and a sealed enclosure.
- Superior voice intelligibility with an average coverage angle of 105° (2-10 kHz, independently verified).
- Cost-effective 16 ohm settings allows for the use of multiples of two, four, or six speakers in a system using a standard amplifier without a transformer.
- Incorporates a painted steel grille with rust inhibitor for lasting durability.
- Adaptable to ceiling thicknesses ranging from 0.04 inch (0.9 mm) to 1.60 inch (40.6 mm).
- UL 1480 (UEAY) and 2043, cUL, CE (EMC Directive 89/366/EEC, EN55020, EN55013) approved.
- High-quality black or white painted finish. Custom colors available.
- Included accessories: tile bridge, UL-listed 0.5-inch conduit clamp, paint shield and two wire nuts.
- Optional accessories: color-coded (green) pre-construction bracket (AC-CMEZ6/8-PCB) and junction box (AC-CM-EZ-JBOX).

### Description

The CM82-EZs-II is an 8-inch, coaxial, two-way, blind-mount, in-ceiling speaker which delivers true high efficiency and performance across the operating bandwidth. By incorporating an 8-inch polypropylene driver with a butyl rubber surround in a sealed drawn steel backcan, this speaker delivers maximum frequency response (82 Hz - 22 kHz, -10 dB) in an integrated enclosure design.

Mounting hardware is included and features a constant-tension fixed-wing mounting system with a 21-gauge "full-metal" steel tile bridge ensuring rapid and secure installation in any sheetrock or drop-tile application. For easy ordering,



stocking and installation, this series includes a color-coded (green) tile bridge and optional pre-construction bracket, six-position tap switch for 25-, 70.7- and 100-volt applications with transformer bypass position.

## Applications

Developed specifically for paging and background music applications where cost, quality and fit are paramount, the CM82-EZs-II is ideal for hotels, education, hospitals, retail stores, restaurants, airports, churches or boardrooms. Indeed, the entire CM-EZ-II series is engineered for installations where high efficiency and rapid installation are critical attributes. For applications requiring additional bass response, SoundTube's CM1001d-T and SM1001p subwoofers provide true low-end response down to 41 Hz.

## Patented SoundTube Technologies

SoundTube Entertainment and the MSE Audio Group constantly develop new technologies which enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. and international patents, which explicitly cover SoundTube dome, enclosure and dispersion technologies. The MSE Audio Group actively defends its patents in order to protect SoundTube resellers and end-users.

## Technical Data and Specification Tools

### Technical Data

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data are available from SoundTube Entertainment or at [www.soundtube.com](http://www.soundtube.com).

Technical data and downloads include:

EASE™ data – 3-D polar plots.

EASE™ Address – 2-D modeling for distributed systems

Autodesk® Revit® software

Tech Sheets – Technical information and architectural specs for system engineers  
SoundTubeSPEC™ – Proprietary speaker placement software

## Independent Data

### Acquisition and Verification

All data for SoundTube speakers are independently collected from and verified by NWA Labs ([www.nwaalabs.com](http://www.nwaalabs.com)) using their proprietary MACH testing system. All data are collected and analysed according to ASTM, ISO and AES standards using EASERA, TEF and MLSSA. Full balloon data including both phase and magnitude is compiled into a variety of formats including EASE 4.x, GLL and CLF.

## Architectural Specifications

The loudspeaker shall consist of one 203 mm (8.0 in.) low-frequency transducer and one 25.4 mm (1.0 in.) high-frequency transducer with a frequency dividing network installed in a sealed enclosure. The low-frequency voice coil diameter shall be 25.4 mm (1.0 in.). The low-frequency transducer shall have polypropylene cone material with a butyl rubber surround. The high-frequency transducer shall be constructed of silk material using a balanced-dome configuration.

Performance specifications of a typical production unit shall be as follows: Usable frequency range shall extend from 82 Hz - 22 kHz, -10 dB. The loudspeaker shall include a selectable 25-, 70.7-, and 100-volt modes with a transformer bypass position. The frequency-dividing network shall have a crossover frequency of 3.0 kHz. Rated power capacity of the components and network shall be at least 64 watts RMS and conform to EIA-426-B testing. Maximum continuous output at 1 meter shall be at least 106.0 dB SPL.

The backcan shall be constructed of galvanized steel with an ABS plastic baffle. The grille shall be constructed of painted steel treated with a rust-inhibiting paint adhesive. Shipped complete

with UL-listed flex conduit connector, color coded tile bridge (to match color-coded backcan label), grille, wire nuts, cut-out template and paint shield, the integrated in-ceiling speaker is engineered for high performance and rapid installation in plenum spaces. The unit incorporates three additional attachment points for added security and code satisfaction where required.

Installation for the speaker shall be by two-screw blind-mount constant-tension fixed-wing assembly and shall attach to ceiling thicknesses ranging from 0.9 mm (0.04 in.) to 40.6 mm (1.60 in.). The external wiring shall be via 4 position ceramic terminal strip accepting up to 12-gauge wire.

The maximum backcan dimension shall be no more than 95.3 mm (3.75 in.) in height by 245.6 mm (9.67 in.) in diameter. The maximum visible dimensions shall be no more than 8.6 mm (0.34 in.) in height by 298.5 mm (11.75 in.) in diameter. The unit is factory preset to the 64-watt setting in the 70.7-volt operating mode with a tap switch located on the front baffle.

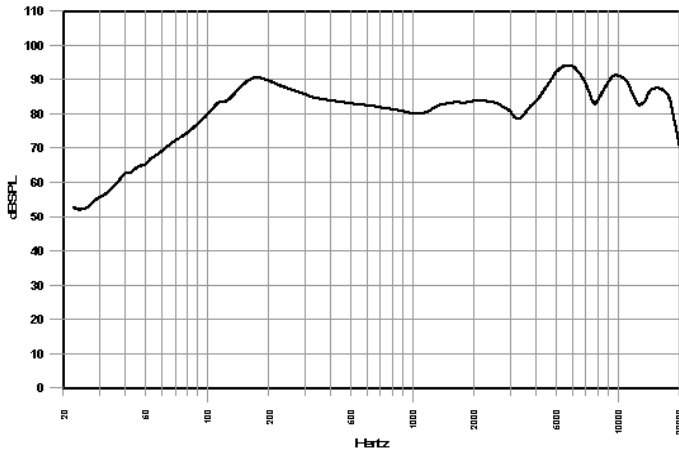
The system shall be the SoundTube CM82-EZs-II for both low- and high-impedance applications.

## SoundTube Entertainment

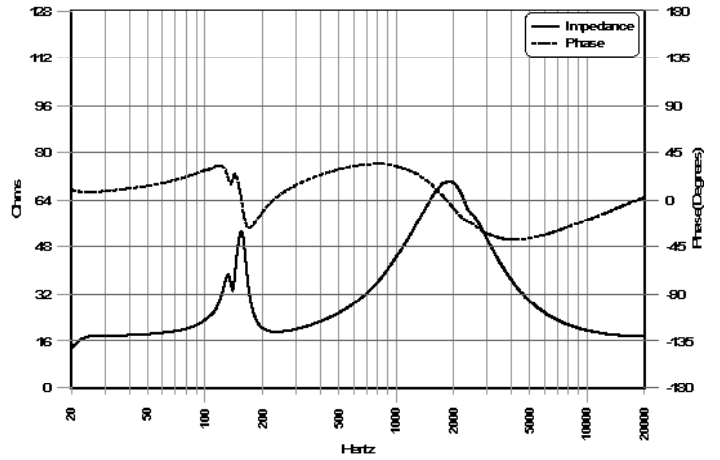
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**All SoundTube products come with a 5-year limited warranty.**

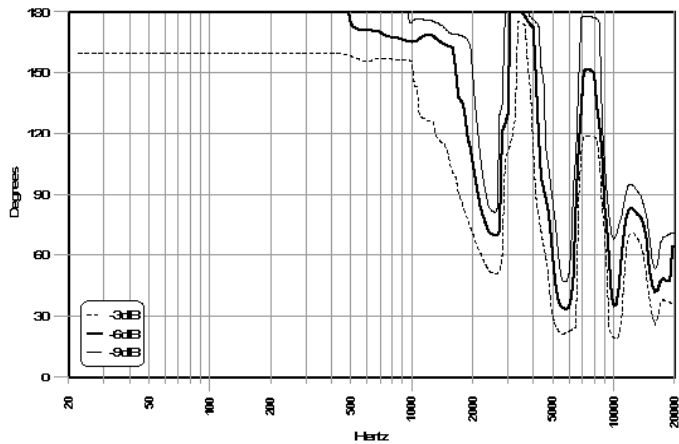
**Frequency Response**



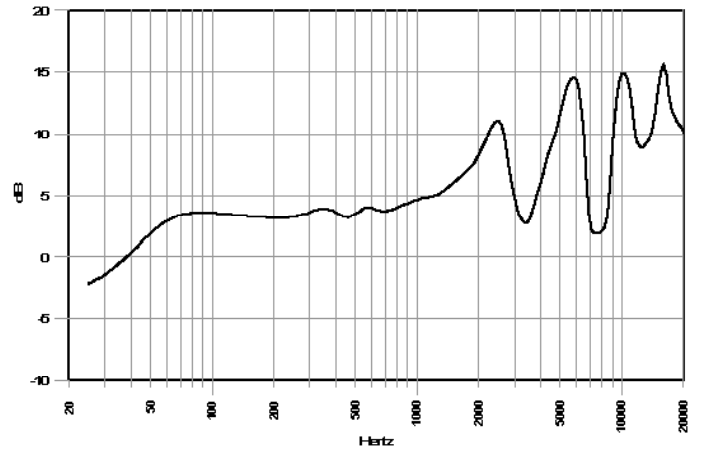
**Phase/Impedance Response**



**Vertical Beamwidth**

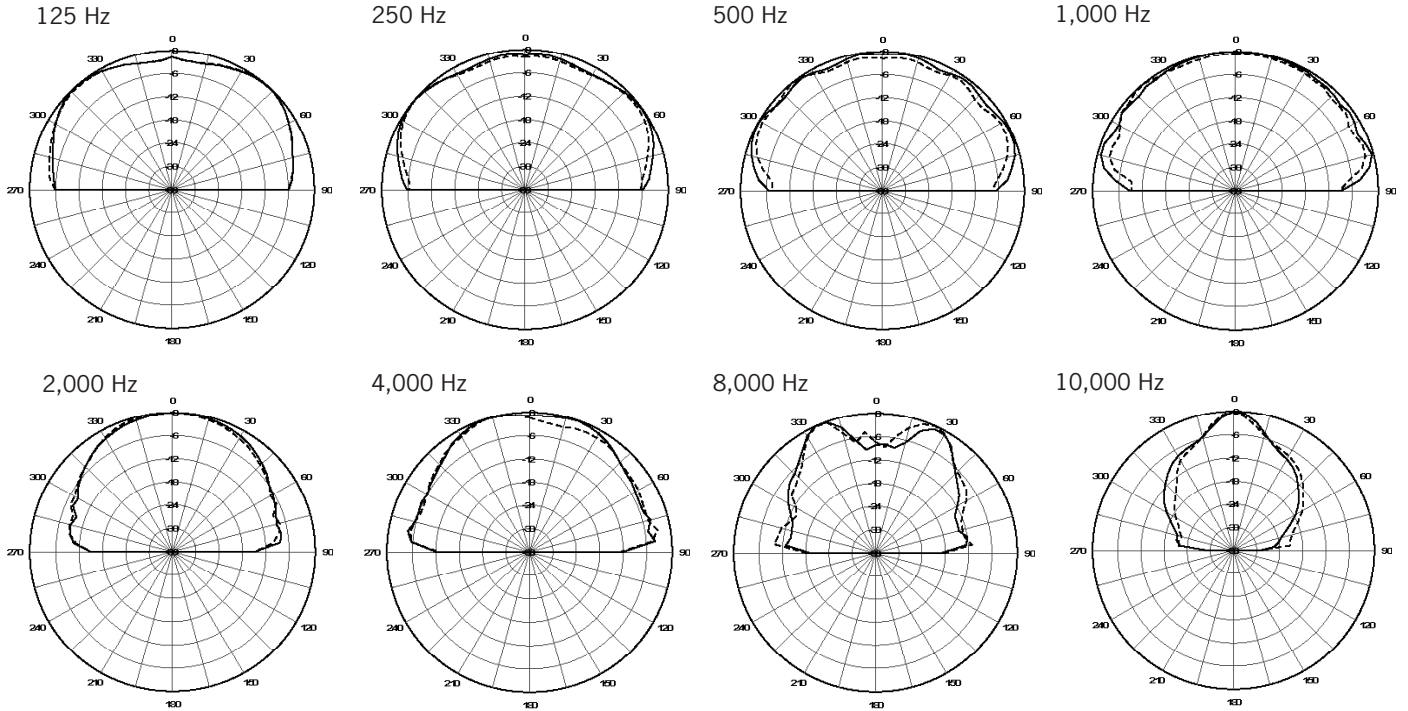


**Directivity Index (DI)**



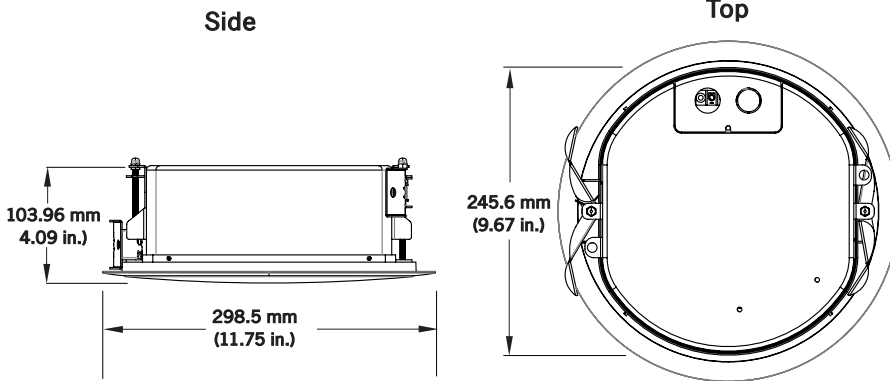
## Polar Plots

— Horizontal  
- - - Vertical

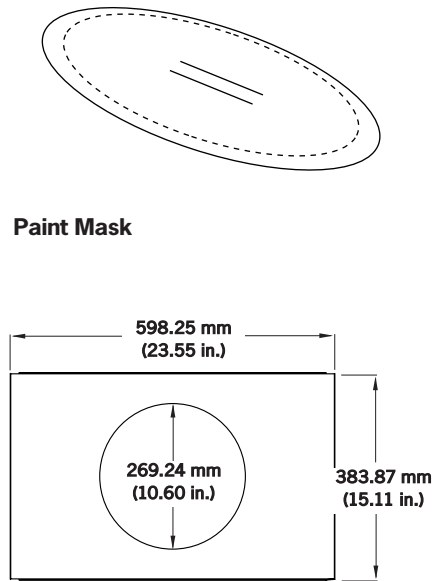


Technical data, EASE™ plots, SoundTube SPEC™ software and product downloads available at [www.soundtube.com](http://www.soundtube.com)

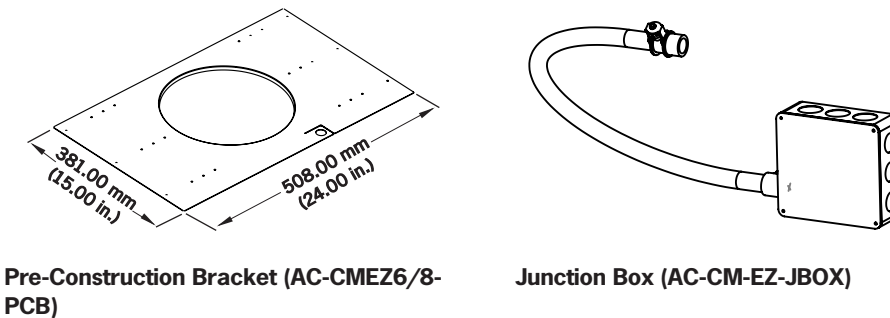
## Mechanical Drawings



## Included Accessories



## Optional Accessories



SoundTube Entertainment manufactures a complete line of speakers for:  
**Open-Ceiling • In-Ceiling • Surface-Mount • Outdoor • Sound-Focusing**

All SoundTube products are designed and engineered in the USA.